

OHS09820

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MDL INFORMATION SYSTEMS, INC.
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1-615-366-2000

EMERGENCY TELEPHONE NUMBER:
1-800-424-9300 (NORTH AMERICA)
1-703-527-3887 (INTERNATIONAL)

SUBSTANCE: FERROUS AMMONIUM SULFATE

TRADE NAMES/SYNONYMS:

AMMONIUM FERROUS SULFATE; IRON AMMONIUM SULFATE; SULFURIC ACID, AMMONIUM
IRON(2+) SALT; MOHR'S SALT; SULFURIC ACID, AMMONIUM IRON(2+) SALT (2:2:1);
AMMONIUM IRON(II) SULFATE (2:1:2); FERROUS DIAMMONIUM SULFATE; NA 9122; STCC
4963354; OHS09820; RTECS WS5890000

CHEMICAL FAMILY: inorganic, salt

CREATION DATE: Feb 22 1985

REVISION DATE: Mar 22 2001

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: FERROUS AMMONIUM SULFATE
CAS NUMBER: 10045-89-3
EC NUMBER (EINECS): 233-151-8
PERCENTAGE: 100.00

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=0 REACTIVITY=0

EMERGENCY OVERVIEW:

COLOR: green to blue

PHYSICAL FORM: crystalline powder, crystals

ODOR: odorless

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye
irritation

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: no information is available

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: no information is available

EYE CONTACT:

SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: no information is available

INGESTION:

SHORT TERM EXPOSURE: metallic taste, digestive disorders, difficulty breathing, bluish skin color, lung congestion, kidney damage, liver damage, convulsions, coma
LONG TERM EXPOSURE: same as effects reported in short term exposure

CARCINOGEN STATUS:

OSHA: No
NTP: No
IARC: No

SECTION 4 FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If a large amount is swallowed, get medical attention.

ANTIDOTE: deferoxamine, intravenous.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard.

EXTINGUISHING MEDIA: regular dry chemical, carbon dioxide, water, regular foam

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Do not scatter spilled material with high-pressure water streams. Dike for

later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

SOIL RELEASE:

Dig holding area such as lagoon, pond or pit for containment. Cover with plastic sheet or tarp to minimize spreading and protect from contact with water.

WATER RELEASE:

Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash). Neutralize. Collect spilled material using mechanical equipment.

Allow spilled material to aerate.

OCCUPATIONAL RELEASE:

Collect spilled material in appropriate container for disposal. Keep out of water supplies and sewers. Keep unnecessary people away, isolate hazard area and deny entry. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

FERROUS AMMONIUM SULFATE:

IRON SALTS, SOLUBLE (as Fe):

- 1 mg/m³ OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
- 1 mg/m³ ACGIH TWA
- 1 mg/m³ NIOSH recommended TWA 10 hour(s)
- 1 mg(Fe)/m³ UK OES TWA
- 2 mg(Fe)/m³ UK OES STEL

MEASUREMENT METHOD: Particulate filter; Acid; Inductively coupled plasma;
NIOSH IV # 7300, Elements

FERROUS AMMONIUM SULFATE:

1 mg(Fe)/m3 ACGIH TWA

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

Any dust, mist, and fume respirator.

Any air-purifying respirator with a high-efficiency particulate filter.

Any powered, air-purifying respirator with a dust, mist, and fume filter.

Any powered, air-purifying respirator with a high-efficiency particulate filter.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: solid

COLOR: green to blue

PHYSICAL FORM: crystalline powder, crystals

ODOR: odorless

MOLECULAR WEIGHT: 284.1

MOLECULAR FORMULA: $\text{H}_8\text{-N}_2\text{.FE.2S-O}_4$

BOILING POINT: Not applicable

MELTING POINT: Not available

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY: Not available

WATER SOLUBILITY: soluble

PH: 3.0-5.0 (5% solution)

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Insoluble: alcohol

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition.
Avoid contact with incompatible materials.

INCOMPATIBILITIES:
FERROUS AMMONIUM SULFATE:
No data available.

HAZARDOUS DECOMPOSITION:
Thermal decomposition products: ammonia, oxides of nitrogen

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

FERROUS AMMONIUM SULFATE:
LOCAL EFFECTS:
Irritant: inhalation, skin, eye

HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

FERROUS AMMONIUM SULFATE: Inhalation of dust may irritate nose and throat
and cause coughing or difficult breathing.

CHRONIC EXPOSURE:

FERROUS AMMONIUM SULFATE: No data available.

SKIN CONTACT:

ACUTE EXPOSURE:

AMMONIUM FERROUS SULFATE: It may irritate the skin.

CHRONIC EXPOSURE:

AMMONIUM FERROUS SULFATE: No data available.

EYE CONTACT:

ACUTE EXPOSURE:

AMMONIUM FERROUS SULFATE: The chemical may cause eye irritation. Similar chemicals have caused eye degeneration in rabbits.

CHRONIC EXPOSURE:

AMMONIUM FERROUS SULFATE: No data available.

INGESTION:

FERROUS AMMONIUM SULFATE: See information on iron salts.

ACUTE EXPOSURE:

IRON SALTS: 10 minutes to several hours after excessive ingestion of soluble iron salts, severe gastritis or gastroenteritis may develop with abdominal pain, nausea, vomiting or hematemesis, watery or tarry diarrhea from corrosion of the gastric mucosa, dehydration, leukocytosis, and fever. Metallic taste, restlessness, lethargy, hypotonia, coma, pallor or cyanosis, fast, weak pulse, hypotension, hyperventilation due to acidosis, shock, vasomotor instability, and cardiovascular collapse may occur. Severe cases may lead to death in 4 to 6 hours. After an asymptomatic period of 12 to 72 hours, symptoms of the initial stage may recur. Pneumonitis, pulmonary edema and hemorrhage, and convulsions may also be present. Liver impairment with jaundice, hypoglycemia, multiple coagulation defects, kidney damage with anuria, pancreatic damage, vascular damage, hypovolemia, hemoconcentration, profound shock and vascular collapse may develop. At this stage, death may occur in one to three days or up to a week after ingestion, from shock, hepatic failure, or pneumonia. Survivors may display gastric scarring or obstruction, pyloric obstruction or stenosis, mild hepatic cirrhosis, and, in at least one reported instance, neurologic sequelae.

CHRONIC EXPOSURE:

IRON SALTS: Repeated therapeutic use of iron preparations may cause gastrointestinal tract irritation with nausea, vomiting, heartburn, anorexia, constipation and diarrhea. Chronic excessive iron intake can lead to hemosiderosis with possible damage to the liver and pancreas.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: 39000 ug/L 96 hour(s) LC50 (Mortality) Mummichog (Fundulus heteroclitus)

FATE AND TRANSPORT:

BIOCONCENTRATION: 74.49 ug/L 14 hour(s) BCF (Residue) Duckweed (Lemna minor)
1000 ug/L

SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: No classification assigned.

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR/RID: No classification assigned.

AIR TRANSPORT IATA/ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):

FERROUS AMMONIUM SULFATE: 1000 LBS RQ

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):

Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):

Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: Yes

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

EC CLASSIFICATION (CALCULATED):

Xi Irritant

DANGER/HAZARD SYMBOL:

Xi Irritant

EC RISK AND SAFETY PHRASES:

R 36 Irritating to eyes.

R 37 Irritating to respiratory system.

R 38 Irritating to skin.

S 2 Keep out of reach of children.

S 24 Avoid contact with skin.

S 25 Avoid contact with eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 46 If swallowed, seek medical advice immediately and show this container or label.

GERMAN REGULATIONS:

WATER HAZARD CLASS (WGK):

STATE OF CLASSIFICATION: VwVwS

CLASSIFICATION UNDER HAZARD TO WATER: 1

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

SECTION 16 OTHER INFORMATION

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